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"*Quicquid Præcipies Esto Brevis.*"

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ORIGINAL AND SELECTED ARTICLES.

ASEPTIC, ANTISEPTIC AND SEPTIC SURGERY.

Address at the opening of the Session of the Southern Medical College, Atlanta, Georgia, 1888.

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The advances in surgery within the past decade have been largely due to the adoption of measures of treatment based upon the germ theory of disease and the exclusion of the atmosphere, with its various impurities, from wounds.

It has been ascertained by microscopic investigation that many of the disorders of the organism are associated with, if not dependent upon, the presence of micro-organisms, and upon the hypothesis that these exert a causative influence upon inflammatory processes, the use of germicides is claimed by a large number of medical men, who occupy prominent positions in the profession, to exert a salutary influence. On the contrary, there are others of equal distinction who ignore entirely the operation of such an etiological factor, and contend that the presence of micro-organisms may be a concomitant or sequence of abnormal development in the tissues, which should not be taken into account, in employing therapeutic agencies in diseases.

The practical appliances in surgery, based upon the former assumption, have been so far successful as to sustain its advocates in its adoption for the treatment of all classes of injuries, and in the dressings of the wounds connected with most operative pro-

cedures. This view has taken hold of the profession to such an extent that an attempt has been made to impress the public with the idea that any other mode of proceeding should not be recognized by law, and departures from it should be considered as malpractice by the courts of justice. In other words that all who fail to observe the details of the so-called antiseptic surgery should be put under the ban of the profession, and that in medico-legal proceedings they should not be entitled to recognition, as fulfilling the indications of progressive surgery. It matters not in the estimation of these aggressive practitioners, that some of their colleagues who have had the same opportunities for studying this theory and similar occasions for observing the effects of its application, have not been able to discern its great practical benefits, and claim that their cases have been treated successfully without conforming to its requirements. A few, doubtless, who act upon their convictions, may be able to demonstrate by their results that the new regime is, to say the least, not necessary to success in surgery, and it behooves all to avoid the tendency to fall into line without proper examination of the merits of any method of treatment which happens to be popular.

There are some features of the observances inculcated by the new school philosophy which are troublesome and expensive, yet if they are essential to the proper treatment of a case, should not be neglected on this account. But if it is made to appear clearly that they are not requisite for a good result in a given case, or may be dispensed with advantageously, then it is certainly out of place to resort to an expensive and troublesome process when a more simple proceeding would serve a better purpose. Thus common sense would dictate the adoption of a course attended with the least embarrassment to the patient and the medical attendant, provided it proves equally satisfactory in its result.

The medical profession is not committed to accept the opinions of any class of practitioners solely upon their assertion of success with any special mode of treatment, as other modes of treatment may have been quite as efficacious in the experience of a different set of observers, and we are in the line of duty to weigh all the testimony available in regard to the innovations upon old and established practices before adopting any measure which has only the attraction of novelty or the weight of authority in its favor. Let us examine all things thoroughly, and after testing their virtues satisfactorily cling to those methods of treatment which are attended with the greatest efficiency.

There is a distinction between the normal and the physiological

conditions of the nerves and vessels supplying a part in recent injuries to the organism by violence, as compared with the abnormal and pathological state resulting from inflammation or other structural disorders.

A proper discrimination between these, forms the basis of treatment in wounds at the different stages, and while a primary dressing is made with a view to the prevention of trouble beyond that of the traumation, the secondary measures may require a consideration of the modifications in the tissues and the consequent derangement of the general organization, including the vascular and absorbent systems. All changes in the organism of a secondary character depend upon an impression upon the nerve centres from the local injury, and thence the baleful influence is propagated through the efferent nerves and the ganglionic nerves throughout the entire organism, constituting what is characterized as constitutional disturbance. Topical means of treatment must be supplemented in this case by internal medication calculated to have a general effect upon the secretions. The action and reaction observed between traumatic lesions of a local character and the constitutional derangement involving the different organs and their functions, are as much within the province of surgery, as the treatment of the solutions of continuity in the tissues from violence that come under the care of the surgeon.

All the practical appliances of surgery may be appropriately classed under the headings of "Aseptic, Antiseptic and Septic Processes." The first embodies all those means which come under the class of prophylaxis, and looks to the avoidance of hurtful agencies, thus being assured that if a measure does no good it will do no harm. It is the highest type of conservatism to preserve the organs or tissues involved in an operation against any sort of mutilation or injurious impression from other sources. The procedure therefore which affords the best guarantee against detriment to the structure of a part subjected to surgical treatment, commends itself to the adoption of the practitioner under all the varied surroundings of the case. From whatever cause impairment or disability of the constituent elements of a part may ensue, whether in the action of a disease upon its tissues, or from the operation which may be undertaken, with the concomitant dressings, it should be put to the account of conservative surgery. The true aim and end of surgery being to preserve and not destroy a part which may be diseased or injured, all those processes of asepsis that look to its restoration are of the highest value to the surgeon. For illustration, it may be noted that a finger may be

crushed and mangled in such a manner that amputation would be the quickest and easiest mode of procedure. Yet it would not be good surgery to sacrifice a part which by a proper appreciation of the recuperative powers of its tissues, and the timely adoption of an aseptic treatment should be saved. "Be sure you do no harm," is the great cardinal doctrine of aseptic surgery, and akin to this is the fundamental principle that "an ounce of prevention is worth a pound of cure" in guarding against trouble from any source.

It is a prudent policy to rely upon the *vis medicatrix naturæ* to a large extent in the management of recent traumatic accidents; and there is a masterly inactivity which avails much towards the restoration of structures that have been seriously injured by violence.

Some of the results of domestic management in the prompt readjustment of lacerated structures, and the application of simple remedies in wrapping up the part, call for the careful consideration of surgeons in making primary dressings of wounds. It is doubtful whether any improvement upon the blood plaster which is formed by the saturation of a loose cloth around a fresh wound, can be effected by any medicated application, and this soon forms a protection against the entrance of air, which serves as an aseptic dressing. The parts are in their normal healthy state with a predisposition to heal, and only require to be let alone; so that meddlesome surgery can only interfere with the cuperative process in the tissues, and we must play "hands off" in the management of this class of cases.

It is not proper to use disturbing measures either of a local or general nature, when the recuperative powers of an injured part are equal to the occasion, and practically our means of treatment are limited to the exclusion of the atmosphere from the wound. The province of the true asepsis in such cases is proper adjustment of the structures, and the prevention of anything calculated to interrupt the curative process.

A careful examination of a recent injury is of the utmost importance to detect foreign matters which may prove a hindrance to the restoration of the tissues by adhesive inflammation, and sufficient stress is not laid upon the fact that coagula of blood left in the bottom of even an incised wound may undergo decomposition and prove a source of serious trouble in the aseptic process. I am aware that the doctrine is held by some that a layer of blood clot over the bone and muscles after closing a stump in amputation of a limb is entirely innocent if not salutary. But my observation

of the results in such cases, leaves not a shadow of a doubt as to the injurious consequences of leaving any accumulation, however small, within the flaps, where the skin is closed so as to prevent its escape, or hermetically sealed against entrance of air. To ensure a satisfactory issue in the application of aseptic dressings, it is essential that any exudation of blood or serum shall have an outlet, and he who neglects this precaution commits a grave error.

Extreme conservatism must be avoided in choosing the alternative between attempting to save a limb and sacrificing it, when the life of a patient is involved in the decision. With all our aseptic resources, it would be unwise to risk the consequences of an injury to the ankle joint in which the bones are crushed, the ligaments and tendons torn, and the nerves and arteries lacerated, though coaptation of the various structures might be to a great extent accomplished. The resort to immediate amputation under such circumstances is so imperative, that I should consider it rashness if not madness on the part of any surgeon who may undertake to save the foot by aseptic measures.

On one occasion, under similar conditions, when the patient insisted on an effort to save his foot, I withdrew from the case, and was subsequently recalled to amputate the leg at the point of election below the knee, whereas the operation could have been done previously at the ankle, without the grave constitutional symptoms that followed the injury.

With the lights before us, and the resources at our command for the preservation of the vital structures, the surgeon is warranted in undertaking to save limbs which under the old regime were necessarily lost. But it shows an utter lack of discretion to try to accomplish an impossibility by giving life to a dead member of the body.

Asepsis, as the derivation of the word implies, consists in opposing all contaminations from within and without a wound, and presupposes the vitality of the structures involved in the lesion, so that a part deprived of the supply of nerves and blood vessels, is "*ex-necesitate rei*," beyond the sphere of curative agencies, and its loss is a foregone conclusion. It is therefore good surgery to amputate such a member at the earliest practicable moment after the infliction of a destructive injury.

Barring this class, the most extensive traumatism may be amenable to proper diligence in the application of aseptic measures, and among them cleanliness is of prime importance. The idea conveyed by freedom from dirt or filth applies not alone to the absence of any foul extraneous matter from the wound, but its complete

removal from the surroundings and the bedding of a patient as well as the apartment.

There are many cases in which medication is not requisite, and after the co-aptation of the tissues by suture or otherwise, a simple cotton dressing with a bandage suffices for the cure.

The water dressing for wounds so much in vogue formerly has been abandoned by most surgeons of late, owing to its many inconvencies in the repeated applications, and its positive hurtfulness in some instances by the extension of humidity to other portions of the body, leading to rheumatism, pneumonia, pleurisy, etc., more serious than the original injury

A fresh incised wound, either from accident or in the course of surgical operations, having the minute vascular supply in a favorable condition to secure union by adhesive inflammation between the approximated parts, only requires to be clean and free from coagula to heal without the interposition of medication. It is customary, however, to wash off such surfaces with a weak solution of carbolic acid before closing them, and to dust over the line of union with iodoform before enveloping the part with absorbent cotton, and this treatment is attended with satisfactory results. The washing out of the peritoneal cavity in laparotomy with a similar carbolic solution of a more dilute form, not exceeding five per cent., seems to be advantageous. But there is sufficient evidence from the practice of those who have employed a simple solution of chloride of sodium, for washing out the abdominal cavity, to rely upon its efficiency in such cases, and it is evidently innocuous; and it has been often resorted to for intravenous injections in cases of great vital depression from hemorrhage or other causes, with marked good results.

The possibility of leaving any portion of the fluid used as a wash in the abdominal cavity, and thus leading to its absorption, gives the chloride of sodium solution a decided preference over a carbolic solution, as the latter is liable to induce troubles of a nature which do not occur from the absorption of the former. The safest is therefore the best for general use.

There is a class of wounds attended with laceration and bruising of the adjacent structures, to which medicated dressings are essential for the prevetion of suppuration and the promotion of the recuperative process in the tissues of the part. In view of the impaired vitality of the organism under such circumstances, its capacity for restoration is lessened, and a stimulating embrocation becomes necessary to prevent the tendency to disorganization. As yet no septic process has been developed, but if the mangled

structures are not assisted by a stimulant, a destructive decomposition may be expected in a brief period, and with a view to preserve the crippled capillaries and minute nerve fibres from death, no temporizing applications such as the canonized arnica and laudanum, or other mild applications are sufficient.

It has been found under such circumstances that all the requirements are satisfactorily met by a heroic treatment with a free application of spirits of turpentine and camphor, in the proportion of one drachm of the latter dissolved in one ounce of the former. This is poured into the lacerated wound and the part is enveloped in cotton saturated with it, having a bandage passed somewhat firmly around, so as to afford support to the bruised and weakened tissues. This dressing is repeated night and morning without washing the parts, and has in my experience proved to be the *ne plus ultra* as a surgical appliance in some of the gravest injuries of the hands and feet.

It is desirable in this class of injuries to prevent, as far as practicable, the suppurative process. After employing this dressing until there is a fair prospect of restoring the vitality of the structures and when the parts manifest increased sensitiveness, sweet oil is added to the liniment.

The camphorated spirits of turpentine being mixed with an equal quantity of olive oil forms a good application with absorbent cotton for continuous use, and it is rare that pus is formed in the course of the restoration of the tissues, even when the laceration has extended to the bone.

I am so impressed with the advantages of this mode of treatment that a typical case, recently under my observation, may be appropriately presented in illustration of its efficacy.

A white man had the left hand caught between the bumpers or deadwood of two railroad cars, crushing three of his fingers, the index, middle and ring fingers; the index being lacerated from the middle of the first phalanx to the middle of the third, opening the skin and subcutaneous tissues so as to expose the tendons of the flexor muscles, with detachment on either side from the bones; the middle having all the soft parts throughout its entire length mangled and the tissues torn away completely from the bone of the first phalanx beyond the articulation, so that all the surface of the bone was exposed and protruding; t e ring finger was also badly torn along its palmer aspect.

These required stitches for drawing the skin together at several points, and the middle finger was with much difficulty brought into shape by pressure.

Under the usual course of procedure, the first and second fingers would have been condemned and amputated, but my colleagues, Drs. G. G. Roy and P. E. Murray, concurring in the attempt to save them, I proceeded to bathe all the fingers with the camphorated turpentine, and wrapped each with cotton lint saturated with this liniment. Outside of this a layer of cotton was secured by a roller around each finger, and the entire hand was covered with cotton and wrapped up loosely, being suspended in a sling around the neck.

This dressing had been repeated daily under the supervision of Dr. Roy, who was in charge of the patient, and on the tenth day the wounds were found to be progressing favorably toward restoration in every respect without suppuration, except to a very limited extent, at the end of the middle finger. The nail which was left clinging to its matrix at the time of the first dressing had proved a source of irritation; whereas the end of the index finger from which the nail was detached with scissors at the original dressing, was healing kindly. My attempt to shut in the first phalanx of the index finger had not succeeded completely, and the point of the bone was exposed by the separation of the tissues, which I drew together by a strip of adhesive plaster. Some of the stitches had been previously removed, and those remaining were taken out on this occasion.

On the twentieth day this point of bone was nipped off, and the edges united by granulations, so that all the fingers healed by the end of a month, without such stiffening of any of their articulations as to impair their usefulness.

This is but one out of the many cases, with very similar conditions, which have been treated in this manner; and a number of my colleagues here are cognizant of all the facts connected with a large proportion of the successful results.

As there has rarely appeared an amount of pus to call for washing, most of the cases have been carried through the entire period of treatment without the use of water, and hence the aseptic properties of this combination are more strikingly exemplified.

Some progressive disciple of novelty may raise the point that there is nothing new in this, as camphor and turpentine are known as domestic remedies everywhere, and have been in use for bruises and wounds among the old women from time immemorial. Thus likewise, I have had occasion to refer to other aseptic measures used in domestic practice, which antedate Listerism by many decades, and it becomes the medical profession to recognize the fact that theoretically and practically cleanliness and exclusion of

the air from wounds are not new doctrines. But it was necessary to have a systematic demonstration of this method of proceeding, and the hypothesis of the bacterial origin of suppuration and degeneration of structure after injuries, has furnished the occasion for much fine speculation by our medical philosophers, which may turn out to be well founded upon more thorough examination of the results. It is, however, for the present only to be regarded as a plausible explanation of the phenomena observed in wounds.

This brings us to the consideration of antiseptic applications in surgery, which differ widely from aseptic measures in their aim and results.

The indications for this class of remedies, being founded upon the anticipation or the existence of septic phenomena, lead some to a recognition of the microbic origin of such troubles, while others hold that the developments are attributable to other causes. The truth, no doubt, lies in avoiding the extremes on either side; and for practical purposes it is not requisite to decide as to the etiological factor in the septic process. It is a gratifying reflection for the medical philosopher and scientist to point out the separate germs of the various disintegrating processes involved in the aggravation of wounds, and to define the special microbe of distinct diseases, but the practitioner is not always prepared to accompany the bacteriologist in such investigations, nor does it devolve upon him to accept the conclusions from his investigations for the application of remedies in surgical cases.

After a somewhat careful research of what has been accomplished by the microscope in detecting the different forms of micrococci, spirilli, spores, etc., and noting the discrepancy between the observations of different experts in this department, I am still in doubt as to the role of bacteria in causing the degeneration of vital structures. That such micro-organisms, with fungi and ptomaines have a share in their development is evident, but whether the manifestations connected with their presence is a post hoc or propter hoc, has not been proven conclusively by the results of treatment. I know full well that this qualified incredulity will appear to those who are following in the wake of recent investigators as over cautious, but while questioning some of the tenets of this new faith, my practice conforms in the main to that of its apostles, and I hope to be able to give a reason for my departure from their procedures in so far as they may be hurtful to the patient.

To speak plainly, I am not following the dictation of any prophet in bacteriology, but shall exercise the right of private judgment

in this as in all other matters involving professional observation and research. Having the courage of my conviction based upon investigation of this subject, I protest against a blind acquiescence in any and everything which may be styled antiseptic surgery, because forsooth it is backed up by respectable authority. There is much connected with the general observance of its doctrines which is commendable, and yet there are matters of detail entirely superfluous, and in some instances positively injurious to the patient. With all due respect to some of the prominent members of the profession who claim to be a privileged class in arrogating to themselves the matter of orthodoxy in professional faith and practice, touching antiseptic surgery, I must state that a highly intelligent portion of our colleagues do not accept the soft impeachment of heresy in differing from the standard set up for their guidance, nor admit their dictum that "I am more holy than thou."

The outline and embodiment of antisepsis is really confined to correcting a tendency to or a development of degeneration and disintegration of living structures resulting from contamination in any form. If we are able to discern the causative element and neutralize it by antiseptic measures of a constitutional or topical nature, this is of course the most rational procedure. But in the event of failure to identify the etiological factor, it then devolves upon the surgeon to combat the injurious effects of the vicious impression already made upon the organism and this is by far the most important province of antiseptic surgery. All that is done in anticipation of trouble belongs to the domain of asepsis, and yet the claim for antisepsis includes many measures supposed to be preventive of disorders which become sources of disturbance, so that instead of protecting the organization, they produce derangement and lead to septic developments. This class of agents comes under the division of septic surgery. It is now well-known that the imprudent use of carbolic acid locally has been followed by its absorption and a consequent derangement of the renal function. In like manner the employment of carbolic acid spray has proved as detrimental not only to the patient, but to the physician or surgeon, by inhalation of its noxious vapors, as to lead to its abandonment by most operators abroad, and it is to be hoped that ere long it will not be tolerated in this country, and only be heard of as "a school boy's tale, the wonder of an hour."

The evils growing out of the abuses of the bichloride of mercury as a germicide, are now so well-known to the profession generally throughout the length and breadth of the medical world, that I need not specify instances to any reader of current litera-

ture. Yet it is a daily practice with many members of our profession to employ solutions of this poisonous substance in operations involving the most delicate tissues of the body, with the facts staring them in the face that it is likely to be absorbed and produce serious inconvenience, if not fatal results.

Without any shadow of an excuse for a preference to the bichloride of mercury over other germicides less likely to prove hurtful to the patient, surgeons and gynecologists especially are vying with each other in the multiplicity of cases to which it is applied, and even physicians are contracting the mercuric mania, with the idea of killing microbes in the intestinal canal. The point is settled beyond controversy that it is a potent germicide, and the demonstration is completed by its efficiency in scabies, etc.; but if in the mad race after micro-organisms we do more damage to the structure in which they are discovered than the microbe is capable of doing if let alone then it behooves us to count the cost of such wild and reckless proceedings. I have a thorough comprehension of the temerity of making an issue against such odds as must be encountered in attacking the present popular rage in favor of surgical dressings with solutions of corrosive sublimate; but my voice will be heard and heeded by those who study the lesson of experience. Whenever the liability to disaster is so imminent as in the contact of the sublimate solutions with the absorbent surfaces or recent incisions, no caution short of interdiction meets the requirements of prudence; and except upon the cuticular investment of the body, there is no proper place for bichloride of mercury in antiseptic surgery.

It serves a good purpose for cleansing surfaces within the area of an operation and for disinfecting the hands of the operator and assistants, as it is not absorbed through the skin. But the use of sponges immersed in sublimate solutions, for application to raw surfaces in the course of operations, and the use of its solutions for dressings or washes to structures capable of absorption, should be ostracised by surgeons. With the lights before the profession in regard to the cases of poisoning resulting from even the most cautious employment of recognized dilutions of both carbolic acid and bichloride of mercury in surgical dressings, I am forcibly impressed with the conviction that they should be discarded in all operations upon normal structures. Many prominent practitioners think as I do, touching this septic contamination in what is claimed to be antiseptic treatment, and it is only requisite for them to take a bold attitude of opposition to such measures to effect the needed reform in surgical practice. If the deaths resulting from such

mal-practice were traced to their true source, instead of being attributed to the disease, the authors would incur a terrible responsibility.

There is a phase of septic development to which potent germicides are applicable, and when a local focus of contamination exists, whether it is associated with bacteria, fungi or ptomaines, the most vigorous use of antiseptic measures is demanded. It is evident that septic processes, which uncontrolled, must lead to septicæmia, are arrested in many instances by correctives of various kinds; and nothing which has been said should be construed as opposing a prompt resort to antiseptics and germicides, if indicated, in averting the progressive contamination of the general organization from local septic accumulations.

A normal healthy structure does not call for the application of germicides, but when the tissues have undergone a modification from some contamination, antiseptics are the sheet anchor of the surgeon.

Those prophylactics which may serve to prevent septic processes, and at the same time entail no injury upon the organization, are not amenable to the strictures made upon septic germicides; and it is held by some strenuous opponents of poisonous applications that innocuous agents may be employed as antiseptics with a more satisfactory result. Trusting that further investigation may lead to the adoption of means to arrest all septic processes without harm to the organism, I hope for such a triumph of antiseptic surgery.

"THE PEARL UPON THE ROSE."*

BY HENRY A. DU BOIS, PH. B., M.D., SAN RAFAEL, CAL.

An examination of the latest systematic work on the practice of medicine—that of the late Dr. Fogge—fails to discover any description of vaccination, much less any account of the vaccine vesicle and its origin and mode of development; and after a somewhat extensive search through the text-books one finds himself compelled to go back to the original works of Jenner published in 1798, and to the very able monograph of Robert Ceely published as late as 1840, for an accurate description of the vaccine vesicle and its normal and abnormal development, clearly illustrated by colored plates. Our opinions of disease are at present in a transition stage. Darwin's generalizations have been absorbed and become a part of the thoughts of all students of science. The germ theory, with or without its appendix of the animal alka-

*Dr. Edward Jenner's figurative description of the vaccine vesicle. See Barnou's Life of Jenner, Vol. ii, p. 303.

loids, has quickly followed. These wide generalizations will find their strongest proof or receive a decisive defeat from comparative medicine, a science hardly yet born, but which (in my opinion at least) has a most brilliant career before it. By comparative medicine I mean a complete history of the origin and development of diseases in all organisms, vegetable as well as animal. This involves the tracing of diseases already studied in man, through other animals, and even it may be into vegetable organizations, and from the facts thus collected by thousands of observers, deducing the laws governing diseases. Such observations will doubtless show that diseased action varies according to the organization in which it exists; so that the symptoms presented to the observer may vary greatly according to the animal in which they are studied. As we in our bodies retain traces (apparently useless) of the plan on which the whole class of vertebrates are constructed, so, doubtless, with our diseases, a connection will in time be established with those of other animals. *Nothing, it seems to me, is more logical than the conclusion that, as our bodies are formed on the same general plan as that of other vertebrates, so our diseases are of necessity closely allied, and if variations take place in the structure of varieties or species, so may variations in the disseases follow change of structure.* In other words, if an animal designated as A can change in structure so as to resemble an animal designated as B, or become identical with it, it logically follows that the diseases of A will resemble or be identical with B. In germ diseases the germs doubtless are subject to the laws governing vegetative growth. A high temperature accelerates their development, and the readiness with which they are able to assimilate the elements necessary for their growth, probably has no inconsiderable influence in the causation of the symptoms presented. The orientals introduced the germs of a disease into the skin, and thus caused their absorption by the lymphatics and the consequent modification of the diseases from that caused by the same germs entering the system bv the lungs. Jenner in vaccination went a step further by modifying the germs before inoculation, by their passage through the economy of an animal with a higher temperature than man. That Jenner believed in a modified small-pox, the name which he uniformly used, shows conclusively. He always wrote and spoke of the cow small-pox—"the variolæ vaccinæ"—not of the cow-pox. He certainly believed in a cow-pox only as a modification of small-pox, or, as modern science would now say, an attenuation of its virus. Robert Ceely inoculated a cow with small-pox and with the resulting virus he inoculated children, producing typical vaccine vesicles, from which over two thousand persons were successfully vaccinated within a few months. He went a step further and inoculated a cow first with small-pox, and then after the lapse of some days he vaccinated the same animal, with the result of producing two sets of vesicles precisely alike, except that those resulting from the small-pox virus were more pronounced and appeared later than those resulting from the vaccine virus * Mr. Badcock, of Brighton, England, out of some five

*Observations on the Variolæ Vaccinæ, by Robt. Ceely, p. 381, published in Trans. of the Provincial Medical and Surgical Association, Vol. viii and x, Worcester England, 1840. See plates 9 to 14 inclusive.

hundred or six hundred inoculations with small-pox virus, succeeded in producing well formed vesicles in thirty-seven cows, or seven per cent. of those operated on, so difficult did he find successful inoculation to be; and from the virus thus obtained thirty thousand persons were vaccinated by him, and the virus is still in use in England.† All this was done nearly half a century ago, and yet we read in an article by a practical vaccine propagator in a recent system of medicine* "that small-pox and cow-pox are wholly distinct from each other under all circumstances, and that it is impossible to convert the one into the other"; again, "this practice" (inoculating cows to obtain vaccine virus) "is utterly fallacious, and it is also dangerous, since the disease as produced, however mild it may seem to be, is nothing more nor less than small-pox, with its infectiousness by effluvium and its liability to prove serious, even when carefully inoculated"; and again, "a method that in the light of our present knowledge can only be characterized as downright malpractice." This all on the authority of Chauveau of the Lyons Commission, and against the opinion of Jenner, the opinion and practice of Ceely and Badcock, and the almost universal opinion held by English physicians from the time of Jenner's discovery until the present day, as well as by a multitude of Continental and American experimenters. Barron (Report on the Present State of Vaccination, Vol. viii, p. 20, Trans. Prov. Med. and Surg. Soc., 1840) claims that cow small-pox appears in cattle in two forms, one epidemic of only occasional occurrence, very fatal and infectious; the other milder and non-infectious. The former frequently has occurred, he says, at the same time as an epidemic of small-pox in man, and in India is designated by the same names applied to variola; viz, "bussunt, whatta or gotee."†

Let us now see what the Lyons Commission have proved:

1. They claim to have inoculated cows with small-pox; did they really do so?

2. That the cows so inoculated were proof against cow-pox; were they? And lastly, that "the small-pox in its passage through the system of the cow is not transformed into vaccinia; it remains small-pox and returns to the original state of small-pox when introduced into the human species."* Altogether, the commission claims to have inoculated seventeen cows and three horses without a failure. Badcock only, as we have already seen, succeeded in thirty-seven inoculations out of between five hundred and six hundred, or about seven per cent. Ceely met similar difficulties,

†A detail of experiments confirming the power of cow-pox, etc., as cited by Seaton in his Handbook of Vaccination, Eng. Ed., 1868.

*Vaccinia, by Frank P. Forter, M. D., being article in Pepper's Prac. Med. 1885; see p. 457.

†An Inquiry into the Causes and Effects of the Variolæ Vaccinæ, etc., by Edward Jenner, from second London edition, reprinted at Springfield (with plates) 1802. Further Observations on the Variolæ Vaccinæ, etc., bound with the above. These plates illustrate well the vesicle, but cannot be compared with the artistically colored plates in the monograph of Ceely. These present, as does the whole work, evidences of the most minute accuracy, are carefully colored by hand, and number nearly, if not quite, one hundred separate illustrations. For this work I am indebted to the kindness of Dr. Billings of the Surveyor General's Library, who kindly put me in the way of obtaining a copy of this rare and very valuable original monograph.

and such seems to have been the experience of experimenters generally. They claim that in ten of these, vaccination took more or less in four, and failed in six. On vaccinating three children with virus obtained by scraping the papules after their removal from the cow, small-pox was produced. In weighing conflicting evidence it is important to know the character of the men giving it. In this case we have Robert Ceely's papers with accompanying plates to judge him by, which unfortunately the Lyons commission do not seem to have consulted. Both reports and plates show excessive care and the most minute accuracy. The statements made in the report of M. Chauveau are in oppisition in many respects to the facts as given by experimenters generally, and many of them seem to be made carelessly and recorded from memory some time after the experiments had been made. Briefly they state that the inoculation of small-pox in the cow produces a local eruption of pimples "so minute as to escape notice unless one is on the look-out for them"; and which they failed themselves to recognize in the first five cows experimented on, and they say "that most persons who saw this eruption considered that it was the result of inflammatory action round the inoculated part, and was not indicative of a specific infection."

Robert Ceely before, and LeBlanc and Depaul afterward, obtained the same eruption, and neither of them considered that it indicated an infection of the system. Ceely obtained in his successful cases, not an eruption of minute pimples with scanty or no secretion, but large vesicles with all of the characteristics that go to make up the typical vaccine vesicle. Badcock and Depaul, so far as I can ascertain, obtained a similar eruption. How are we to account then for cow-pox failing to take in six out of the ten cows if the eruption was not that of small-pox? From an experience in the vaccination of over one hundred cows and calves I can safely say that it is no unusul thing for several cows vaccinated with great care and fresh virus (successful in other animals) to fail to take, to develop no vesicles or developing vesicles, to furnish "barren virus." Ceely would probably say that they had failed from some of the many causes given in his papers (page 399) in producing cow-pox. Probably the most likely reason for the non-action of cow-pox in the six cows is that it followed the previous inoculation too soon; so that the skin was in an irritated condition that did not favor absorption of the virus. Lastly, how are we to explain the fact of the three children taking small-pox after being vaccinated with the virus said to have been thus produced? Small-pox seems to have prevailed at Lyons at the time these experiments were being made, and we are told nothing of their surroundings. In 1799 Woodville found when he vaccinated with cow-pox direct from the cow, but with persons surrounded by the effluvium of small-pox in a hospital, that three-fifths of his cases developed a general eruption which proved to be small-pox. Jenner convinced him that small-pox had gained access to the system but not through the virus used, as that when used elsewhere produced typical pocks. Again, if the eruption in the cow was only the result of irritation, as they say many com-

petent observers thought, it is possible that the small-pox virus used may have been simply transferred from the skin of the cow, where it had remained unabsorbed, to that of the child, so that when used on the child it exerted its full force and produced confluent small-pox which resulted fatally in one case at least. To sum up briefly, Ceely's experiments are exact, carefully made and recorded, and above all, his plates enable us to judge of the vesicles that he obtained. From these I think one must conclude that after inoculating with small-pox virus, he obtained vesicles having all the appearances of cow-pox vesicles, and that on the same animal, by a vaccination of a few days later than the inoculation, he succeeded in obtaining two vesicles, one the result of small-pox virus and the other the result of cow-pox irus, and both alike.

The report of the Lyons Commission as we have already said is not minute enough, and there are no carefully colored plates to enable us to judge accurately of the vesicles obtained. There seems evidences of haste. The eruption produced was wholly unlike that considered typical by other experimenters. They were uniformly successful in their inoculations, while all others have failed in at least nine out of ten animals experimented upon. The greatest care and cleanliness is required in experiments of this kind where two viruses are in use at the same time, and may become mixed, the one with the other. The weight of evidence, it seems to me, is in favor of the modified identity of these two diseases. In 1864M. Depaul said: "There is no vaccine virus. Vaccine is nothing but modified small-pox, attenuated in its passage through the system of the horse or cow."

Warlomont, of Brussels, indeed has recently changed his belief in this matter, and whereas he formerly believed the two diseases distinct, he now believes both diseases are caused together with equine, by one virus attenuated in different degrees by the temperature and other surroundings that it meets in each animal, and here for the present we leave the vaccine vesicle.†—*Cal. Prac.*

Distilled Tar Water in the Treatment of Hemorrhages — (*Corneville Saint Marc.*) The author has administered distilled tar water in a large number of cases. The results of his observations are that the products constitute an excellent hemostatic, whose properties present great analogy to those of hamamelis Virginica. He concludes that tar water, prepared from wood tar, constitutes a medicine with incontestible tonic, astringent properties. Administered internally it arrests surely and rapid hemorrhages of the lungs of congestive origin, of the uterus and the kidneys. It offers the surest and most prompt means to arrest the hemorrhages of the first two periods of pulmonary tuberculosis. The dose is from 40 to 60 grammes in twenty-four hours. He has never had the least bad result to follow the use of this remedy.—*Revue de Theraputique.*

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*See Report of commission as quoted by Trousseau in his Clinical Medicine. Vol. ii, p. 118. Also Vaccine e Variole per M. M. Chauveau Vicunois et Maynet, in memories et Comptes Rendus de la Soc. des Sci. Med. en Lyon, Vol. v.

*† A Manual of Animal Vaccination, Dr. E. Warlomont, translated by A. G. Harries, M.D., 1886. Philadelphia.

ABSTRACTS AND GLEANINGS.

SUMMER DIARRHŒAS OF INFANCY AND CHILDHOOD.

BY LOUIS STARR, M. D., PHILADELPHIA.

The diarrhœal affections of hot weather may be grouped under two heads, namely: 1. Ordinary summer diarrhœa, or entero-colitis 2. Cholera infantum. The former is the more common and the more manageable, and so far from being a mild type of the latter, is a distinct disease, requiring its own methods of treatment.

1. Summer diarrhœa, or entero-colitis. Therapeutic measures often fail in relieving this condition when uncombined with rigid enforcement of the general rules of health. The main hygienic features to receive attention are the following: Fresh air must be secured in the cool of the morning and evening, or better still, by a morning or evening trip on the water. The heat of the day must be spent in as cool a room as can be had. Coddling is to be discouraged, as many a stout mother has hastened her infant's death by too fond and constant nursing in the arms. The clothing must be as thin as possible, provided that woolen be always worn next to the skin. Twice or three times a day in very hot weather, the whole surface of the body must be sponged with water at a temperature of 80° Fahr., and dried with gentle rubbing. The addition of rock salt renders these baths more bracing. Full warm baths must supplant the cold spongings if there be much prostration.

The diet is to be most carefully regulated as to quality, quantity, and intervals of administration. Sound cow's milk must form the basis of the food in bottle-fed babies, and peptogenic powder is a very useful addition to it.

Medicinal treatment varies with the case. Should the patient be seen early in the attack, it is initiated by a laxative. A teaspoonful of castor oil with 10 drops of paregoric, or the same quantity of spiced syrup of rhubarb, is sufficient for an infant of one year. Afterward while the stools are yellow, homogeneous, and not very frequent, alkalies and astringents are employed:

℞. Sodii bicarb.....gr. xxxvi,
Syr. rhei aromat.....ʒ iv,
Mist. cretae, q. s. ad.....ʒ xxiv.

M. S. One teaspoonful every two hours for a child of one year.

When the stools are frequent, green and acid in reaction, the the following may be employed:

℞. Syr. rhei aromat.....ʒ iv,
Bismuth subcarb.....ʒ ij,
Syrupi acacia.....ʒ iv,
Mistura creta, q. s. ad.....ʒ xxiv.

M. Sig.—One dram every two hours. At the same time the abdomen is to be reddened two or three times a day, with a weak mustard draught—one part of mustard to five of flour.

If the evacuations be liquid and contain whitish or greenish flakes, and the above treatment fail after a fair trial, good results often follow a short mercurial course, thus:

℞. Pulv. ipecac. comp.....gr. ij,
Hydrarg. chlor. mit.....gr. ss,
Creta preparat.....gr. xxxvi.

M. ut ft. chart, No. 12. S.—One powder every two hours for twenty-four or forty-eight hours, or until the stools become yellow or homogeneous.

Should the stools be frequent and serous, more powerful astringents are used, as aromatic sulphuric acid, silver nitrate, or zinc oxide. When the stomach is very irritable, rectal injections are resorted to, the drugs used being tincture of opium, nitrate silver and ipecacuanha is chosen where there is much tenesmus with the discharge of blood and mucus. It may be administered as follows:

℞. Ext. ipecac fl.....*m.* xii,
Tr. opii deod.....*m.* viij,
Mucilag. acacia, q. s. ad.....℥ ß.

M. S. Inject 1 tablespoonful every four hours.

Stimulants—wine of pepsin, brandy or whisky—are given in all infantile cases where there is prostration.

In cases of recovery, the diet and hygiene must be carefully watched until all danger of a relapse has passed, the astringents are gradually dropped, and digestants and tonics ordered.

The antiseptic treatment recommended by L. Emmet Holt, I have lately tried with good results. It embraces the careful attention to regimen already alluded to, preliminary evacuation of the bowels with castor oil, and the administration of naphthalin or of sodium salicylate. Naphthlin is usually ordered as in the following prescription:

℞. Naphthalin.....
Ground coffee.....aa gr. vi,
Sugar of milk.....gr. xxiv.

M. ut ft. chart No 12. S.—One powder every two hours.

In conclusion it may be well to draw attention to the fact that the key note of successful treatment seems to be the maintenance of constant circulation in the contents of the intestinal tract. The object of this is to sweep irritating fæcal matter or secretions away from the intestinal mucous membrane and give the latter an opportunity to recover from the catarrahl inflammation affecting it. Castor oil and calomel are the best drugs to accomplish this, and small, frequently repeated doses are to be preferred to single large ones, active purgation being undesirable. With bowels so swept, a bland, unfermenting diet, and attention to the health

rules already mentioned, every aid is furnished to secure the successful action of such remedies as bismuth subcarbonate, naphthalin and sodium salicylate.

On the other hand, should opium be used to lock the bowels, one great factor in the causation of the disease is fortified in its position, and an increase in the degree of inflammation almost invariably results. The opium used in the foregoing prescriptions is only intended to prevent griping or to secure retention in the case of the injection; not for the purpose of checking peristaltic action of the intestine.

In some cases, particularly where there is irritability of the stomach, milk in no matter what form or how prepared, seems to keep up the disease. Under these circumstances my plan is to order one or two teaspoonsful of raw beef juice every two hours, according to age. This diet may be continued for several days, until vomiting stops and the movements improve in character, when a milk diet may be resumed.

One must not forget that a change of climate is a most efficient method of treatment, especially when the seaside is the objective point.

2. Cholera infantum: The large and frequent watery evacuations characteristic of this disease are such a drain upon the system that it is of the first consequence to replace the waste by food and drink, and at the same time check it by appropriate treatment. The irritability of the stomach is a formidable barrier to alimentation, nevertheless every effort must be made to give food in small quantities and at short intervals. Should the infant be at the breast, it may be allowed to nurse for a few minutes every half hour or hour. If hand-fed it may be given the foods suitable in entero-colitis, or in chronic vomiting, in such quantities as can be retained and at intervals corresponding in frequency to the smallness of the amount. Bits of ice and water should be allowed freely, even though they be rejected as soon as swallowed.

To check the diarrhœa opium and astringents are necessary. A very serviceable formula is the following:

℞. Liquor morphine sulphat.....ʒ j,
Acid sulphuric aromat.....*m* xxiv,
Elix. curacoæ.....ʒ iv,
Aquæ, q. s. ad .....ʒ xxiv.

M. Sig.—One teaspoonful every two hours for a child two months old.

With this, 2 drops of laudanum, suspended in 2 teaspoonsful of starch water should be given by the rectum every three hours. Two or three times daily a mustard plaster, one part of mustard and five of flour, must be applied over the whole surface of the abdomen long enough to redden the skin, and the whole body should be sponged several times a day with water at a temperature of 95° F.

The clothing, diapers and person must be kept perfectly clean, the sick room must be as large and airy as can be commanded, and the infant must lie upon a bed and not be constantly nursed

on the lap. If it be possible, the patient should be sent early to the seashore or country, as this affords by far the best chance of recovery. Failing in this, morning and evening airings in a coach or daily steamboat excursions must be resorted to.

Stimulants are needed from the first, to ward off prostration—from 5 to 10 drops of whisky in a teaspoonful of limewater may be given every two or three hours, at the age of six months.

When collapse sets in, the quantity of alcohol must be increased, and, if the stomach can bear it, a combination of stimulants is useful, as

℞. Spt. frumenti.....ʒ iv,
Ammon. carbonatis.....gr. xxiv,
Syr. acaciæ.....ʒ viij,
Aq. menthæ pip. q. s. ad.....ʒ xxiv.

M. Sig. One teaspoonful p. r. n.

The temperature must be maintained by hot flannel wraps and hot water bottles, and the child be kept in a horizontal position and disturbed as little as may be.

In this stage astringents are still indicated, but opium must be used with great caution, or even discontinued entirely, when there are cerebral symptoms and semi-coma.

In the fortunate instances, in which this plan is successful, it is necessary to treat the succeeding diarrhœa, and to build up the general health by good food, tonics and fresh air.—*Med. Standard.*

Antiseptic Action of Chloroform Water.—This useful property of chloroform is well illustrated in the *Deutsche med. Wochenschrift*, Heft, 19. Prof. Salkowski calls attention to the powerful antiseptic properties of chloroform water, which he extols in no mistakable terms. Having used it for years to prevent the decomposition of urine, special experiments have shown him that, if the chloroform be kept from evaporating, it stops all fermentative processes conditioned upon the vital activity of micro-organisms; thus, milk keeps for months its original neutral and alkaline reaction. Solutions of cane and grape sugars, mixed with yeast, do not ferment. Albuminous solutions, meat-juice keep perfectly sterile; while ordinary solutions, used for purpose of control, showed bacteria in two days. It is, too, a disinfectant as well as an antiseptic. Very stinking meat juice, shaken with chloroform water, was sterile after one hour's standing. Anthrax bacilli were innocuous after twenty-four hours' contact, and a culture of cholera coma bacillus was made inert in a minute.

From this experimental evidence Salkowski draws the following practical hints and urges experimental trial of chloroform water:

1. Chloroform water in the laboratory is a decidedly superior agent to add to all ferment solutions, albuminous fluids, extracts, etc., it is far ahead of any other antiseptic. Here its volatility is of great advantage, permitting its removal by heat or air current when necessary. To preserve urine unchanged it is of great

value. In urine already alkaline chloroform will not act on the *soluble* ferment present.

2. For the preservation of smaller anatomical preparations; the only drawback is its taking up the blood-coloring matter, a difficulty which further experience may obviate.

3. In therapeutics as a solvent for alkaloids in solutions; subcutaneous injection, for the irritating effects of the chloroform are slight. With so few antiseptics of disinfection of the alimentary canal among our resources, this adaptation of it should be borne in mind.

Animals bear very large quantities (a dog got for four days in succession 7 ounces in his food, without any effect). In cholera it should certainly be tried. Exceptionally in emergencies it might be used as an external antiseptic, though inferior to others. Its easy preparation (*m*lxxv X 75!), shaken in a quart of water) is a recommendation.

[This proportion of chloroform is rather large, as about 1 part of chloroform to 200 of water is as much as will dissolve.—ED.]

A similar laudatory estimate of the value of chloroform in pharmacy for the preservation of extracts, making solutions of drugs, etc., may be found in the *American Journal of Pharmacy*, May, 1888, p. 248.

Unna (*Monatsh. f. prakt. Dermat.*, 1888, Heft 9), on the recommendation of Hager, has used aqua chloroformi as a vehicle for subcutaneous solutions, while the chloroform, though it causes a slight burning sensation in the morphia solution, is of advantage through its anæsthetic properties in such solutions as that of ergotin and in Fowler's. For these he recommends it especially.—*Amer. med. Jour. Sciences.*

Etiology and Treatment of Yellow Fever.—(Gibier, in *LaFrance Medicale.*) In a previous article the result of some researches made upon yellow fever at Havana were presented to the Academy, and he now gives a resume of all the observations made since.

1. In a very large majority of the cases in which examinations have been made of the blood, bile, urine, the pericardiac serosity and the viscera (with the exception of the digestive tube), there were found no micro organisms. So that it may be asked if it is not likely that in the rare cases in which microbes are met it is not possible that they were accidentally introduced in the cultures, particularly as the species are *variable.* However, it can be admitted as possible that they may have been introduced into the circulation accidentally by means of intestinal lesions.

2. The intestines of subjects attacked by yellow fever contain a black or dark matter, more or less abundant and toxic, as shown by experiment.

3. From this black matter taken from the intestine he has isolated a bacillus, which seems to play an important *role* in the coloration of this substance, if not in the pathology of yellow fever. This microbe blackens the body in which it developes. It is a bacillus sometimes straight and short, sometimes a little longer and

curved. It liquefies gelatine. Inoculation of the intestines of animals (dogs and foxes) with a small quantity of the culture of this liquid, produces grave effects, and even death, with the formation in the intestine of a matter like that found in men dying from yellow fever. The other characteristics of yellow fever are as follows: The cultures exhale an odor *sui generis*, and like that of black vomit. A temperature of 60° C. destroys it in ten minutes; a cold of 10° below zero continued for an hour does not kill it.

Drying in the open air in the shade kills it in twenty-four hours. It cultivates well in sea water and lives at least six months, according to my observation, in contact with ordinary microbes.

A temperature above 20° is necessary to its development.

It does not produce spores. The long, undulating form which it takes in old cultures would seem to class it with the spirilli.

If this bacillus is indeed that which causes the phenomena of yellow fever, the preceding characteristics will explain the fact that this disease is only observed endemically in a certain number of seaports of warm countries, where the soil contains the germ of a malady comparatively unknown at a short distance inland.

4. The constant presence in the intestines of matter more or less abundantly *toxic*, the early occurrence of gastro-intestinal troubles (vomiting, epigastric pain, etc.), which usually persist during the entire course of the sickness; the brusque onset of these symptoms, the absence of microbes in the blood and in the viscera, other than the intestines, are other characteristics which militate in favor of the intestinal theory of yellow fever, and if this theory is in accord with the facts, the treatment which I have indicated in a conference with the physicians at Havana (repeated purgatives and intestinal disinfectants), should be successful in the disease which it is intended to combat. Inversely, if a grave case in the civil hospital of Havana, to whom this treatment was given with success, does not remain unique, the intestinal theory of yellow fever may be considered established. *Naturæm morboram remedia demonstrant.—Medical Times.*

The Boracic-Acid-Leucorrhœa-Treatment.—Harriet C. B. Alexander, M. D., Chicago, Physician to Cloverly Home for Nervous Invalids, says: Dr. N. F. Schwartz, of St. Louis, (*Med. Standard*) has claimed remarkable results in the treatment of leucorrhœa from the use of boracic acid. The method advocated by Dr. Schwartz is that followed in otitis media purulenta, and it was the success in its use in the latter disease which led him to try boracic acid in leucorrhœa. He first irrigates the vagina with water as hot as can be borne, then a speculum is introduced and the vaginal walls are carefully dried with absorbent cotton pledgets. Sufficient boracic acid is poured through a cylindrical glass speculum to completely distend the vaginal vault and surround the cervico-vaginal portion.

Dr. H. N. Moyer, who has tried Dr. Schwartz's procedure with success, greatly prefers the larger crystals, as they dissolve slowly, and the effect is more prolonged. The crystals are held firmly in in place by small absorbent cotton tampons supported by a large

aseptic wool tampon.

The treatment was tried by myself in three cases, and in all with good results. The first case was that of a twenty-two year old neurasthenic woman whose general health had become much impaired. She suffered, at the time I saw her, from various imperative conceptions, prominent among which were those of mysophobia. She was the victim of a bad heredity and exhaustion from physical disease. She was treated with cold baths and general tonics, since for moral reasons it was deemed advisable to desist from any treatment of the reproductive apparatus until her geneneral health and mental condition had improved. The patient's will-power was strengthened and her general health had greatly improved when she complained of a profuse leuchorrhœa, which on examination was found to be due to endometritis. I thrice packed her vagina with boracic acid, in the manner already indicated by Dr. Schwartz. After the second packing a hardening of the cervix was noticeable, which was still more marked after the third. She recovered without any apparent untoward results from her leuchorrhœ.

The second case was that of a married woman who suffered from leucorrhœa dependent on endometritis. The discharge became profuse after menstruation or unusual exertion. After the third packing I noticed that the cervix, which had been denuded of epithleum, had a line of healing about a quarter of an inch wide and was decidedly hardened, but the leucorrhœa had entirely ceased.

How long this hardening persists after the boracic acid treatment I am unable to state, as since recovery from leucorrhæa I have not had the opportunity of examining either case. All three patients made a good recovery from leucorrhœa and were pleased with the treatment. Since this hardening of the cervix has not been discussed in connection with the boracic acid treatment, I have thought it of sufficient interest to merit mention.—*Epitome.*

Treatment of Carcinoma Uteri.—(Schauta, *Centrlabl. f. Gyn.*, February 4, 1888).—The relative value of partial and complete extirpation of the uterus is discussed in this paper, and a conclusion reached in favor of the latter. The author analyzes the statistics of Hofmeier, who advocates, with Schroder, the partial operation, and alludes to the statement that the total extirpation is advised by them only in cases in which the disease has extended beyond the os internum. In such cases, however, the disease is well advanced, and it is easy to understand that the comparative results must be unfavorable to the radical operation. A more satisfactory opinion can be reached by comparison of the statistics of operators who do both the partial and complete operations with those of the ones who do only the complete. Thus, by comparison of the statistics of Hofmeier with those of Martin, it is seen that in the former there has been 45 per cent. of permanent recoveries, and in the latter 70 per cent. As to the charge that there is much greater immediate danger from the complete operation, the statistics of Martin and Fritsch for the past two

years furnish a sufficient denial. The assertion that removal of the entire uterus removes the possibility of conception and child-bearing is counterbalanced by the fact that those who have become pregnant after the partial operation have always aborted. As an illustration that it is impossible to distinguish clinically the limits of carcinoma of the cervix, the author cites three cases which came under his observation. In a woman who had reached the sixth month of pregnancy, carcinoma of the anterior lip of the cervix was diagnosticated, and the lip was excised. Normal labor occurred at term. Three years and a quarter later, carcinoma appeared in the posterior lip. The uterus was extirpated, and there has been no recurrence. In a woman forty-seven years of age, a tumor of the cervix as large as an apple, and apparently well defined, was observed. After total extirpation, it was found that the disease had gone beyond the os internum. In a third case, in which extirpation was performed on account of a very small superficial carcinomatous growth of the cervix, a small carcinomatous nodle was also found at the fundus. Clinical facts teach us that the greatest care and attention should be paid to cases in which there are catarrh and erosion of the uterus. If a nodule is at any time discovered, it should be at once excised, and examined microscopically for carcinomatous elements. By this method the disease may be discovered, in many cases, in its early and curable stage.—*N. Y. Medical Journal.*

Saccharin.—According to the latest analysis, saccharin is a white powder, showing under the microscope a crystalline form and soluble in eighty per cent. alcohol or in hot water. It does not reduce Fehling's solution. It suffers no change in the system, and its elimination by the urine commences in half an hour (*Deut. med. Zeit.*, February 23, 1888, p. 197). The substance was first obtained in 1879 from coal tar, and, on account of its intense sweetness (two hundred and eighty times that of sugar—one to two grains sweeten a cup of coffee), has come to be liberally used in manufactures—*e. g.*, beer.

In medicine its chief uses have been in diabetes, in place of cane sugar and as a corrigent. It has been looked upon as an indifferent substance in its effect on the system. Thus, Prof. Mosso gave it in large quantities to animals without damaging results, and 75 grains in men produced no bad effects. Salkowski (Virchow's *Archiv*, cv. p. 46) confirmed its innocuousness. Stadelman, employing it on eleven patients, in doses of 50 to 75 grains, found it harmless in nine, while in two others it caused severe gastric disturbance.

Saccharin has antiseptic properties, and Mosso noticed the fact that the urine of animals taking it kept longer. Little (*Dublin Journal of Medical Science*, June, 1888, p. 493) has reported his use of it in ammoniacal urine dependent on paralysis of the bladder, on stricture or on prostatic disease. The results were highly satisfactory in a series of half a dozen cases. In one case of multiple calculi, in an old lady in which operation was refused, the urine, which had been intolerably putrid for three months, became

non-ammoniacal and sweet in three or four days, and continued so. Little has not found it upsetting to the stomach; in fact, he emphasizes this point of advantage over other drugs given to improve the urine.

Eichhorst (quoted in *Munch. med. Wochsft.*, July 10, p. 478) in the treatment of diabetes, finds saccharin of much worth, but warns against its use in too large quantities, as it easily produces an unpleasant after-taste, nausea and disgust for the medicine.

Treatment of Dysentery—As an article of diet, besides the list of farinaceous foods and meat juices, I wish to emphasize one substance above all others; I refer to buttermilk. With an experience through a number of epidemics, and in many sporadic and malarial cases since 1857, when I began the use of this Southern drink, I am prepared to conclude that in addition to the qualities of nutrition it possesses curative properties. I have never seen harm arise from its use when there did not exist an idiosyncrasy in health. My attention was directed to the article by a paper written by Dr. Stephens, of Chester, Pa., which was published in the "*American Journal of the Medical Sciences*" during the year above mentioned. Let me reiterate and further emphasize the use of buttermilk in dysentery, in whatever form the disease may be encountered. "Stephenize" the patient from beginning to end of case. It is grateful to most persons, and a valuable adjuvant to whatever therapy may be adopted.

Dr. Edwards said: "Doctor, I never lost a case of dysentery, and I always treated and cured such cases by saturating equal parts of apple vinegar and mint water with common salt, giving a dose every two or three hours."

Upon one occasion I was treating a very severe case of this disease. I had "wrung the changes," did the best my judgment would suggest, but the patient got no better. I wrote the following and sent the husband to the nearest drug store for the medicine. The patient made an uninterrupted and rapid recovery.

℞. Acidi acetici.....
Aquæ menthæ piperitæ.....aafl ℥ j,
Sodii chloridi.....ad. saturandum.

M. et S.—Dessertspoonful every two or three hours.

I ordered buttermilk—this was my hobby; the vinegar and salt was Dr. Edwards'. Which cured the patient?—*E. J. Bell, Texas Courier-Record of Medicine.*

Carbolic Acid in Treatment of Typhoid Fever.—In the *Lancet* Dr. F. Sidney Gramshaw gives his experience with the use of carbolic acid in one hundred and sixteen cases of enteric fever.

The diet is restricted to milk toast and water, barley water, and calf's-foot jelly; new milk is always insisted upon as the main support, from a quart to three pints being given to an adult in the twenty-four hours. The carbolic acid is ordered in a mixture, of which this is the prescription: Take of carbolic acid (Calvert's extra pure for internal administration), 12 minims; tincture of

iodine (B.P.), 16 minims; tincture of orange-peel, 1½ drachm; simple syrup, 3 drachms; water to 8 ounces; the dose to be an ounce every four hours for the first fortnight, or until the urgent symptoms yield, when same dose is administered three times a day. The good effect is manifested almost immediately. In two days the pulse slows and gains in strength, the temperature falls, the tongue becomes moist, all diarrhœa ceases, and the general condition of the patient is so much improved that, as a rule, in a week all anxiety is at an end, and the case progresses quietly towards recovery. It sometimes happens that a case is cut short by this treatment as suddenly as is a case of acute rheumatism by the exhibition of salicylate of sodium; but more generally the fever runs its course of thirty days before all danger of relapse is past, and he found it better to continue the medicine until the thermometer shows no rise of temperature for three or four clear days.

Beef tea is carefully avoided so long as the temperature is abnormal, because it so frequently gives rise to a troublesome diarrhœa. A day or two after commencing the carbolic acid mixture patients always complain that everything they take tastes of the medicine. This is unavoidable, and need give no anxiety unless vomiting is excited, when it is a good plan to reduce the dose of carbolic acid and to add a small quantity of dilute nitro hydrochloric acid.—*Practice.*

Antipyrin in the Treatment of Seminal Emissions.—The older remedies for this affection, camphor and lupulin, have very properly been abandoned. Kurschmann says that the sedative action of lupulin on the genital organs is far from demonstrated, and the employment of camphor is not more reliable, although Zeissl, Purjez and others consider it the best remedy in this affection. Nux vomica, arsenic and atropine have also been recommended, while Diday prefers the bromides of potassium and sodium to all other remedies. He recommends from 30 to 80 grains of the bromide of potassium to be taken on retiring. But these large doses of bromide will produce acne, and are also liable to induce mental enfeeblement. In order to avoid the dangers of bromides, Thor, of Bucharest, has been experimenting with antipyrin in the treatment of these affections. He advises the patient to take from 7 to 15 grains of the drug on retiring. In seventeen cases he has completely cured the complaint, without any unpleasant consequences. According to Beart, antipyrin is useful in neurasthenia of the sexual organs, but in these cases from 1 to 2 grains a day should be given.—*Revista de Ciencias de Medicas.*

One-Child Sterility.—A considerable proportion of women never bear more than one child, and this fact is easily explained, for pregnancy may be complicated or followed by disorders which damage the genital apparatus. Dr. Kleinwachter (*Zeitschrift fur Heilkunde*) observed 90 cases where women had been but once pregnant, and on that occasion at a more or less period, out of 1,081 patients in his gynecological practice. In 21 of the 90 cases the pregnancy had ended prematurely. He classed the

causes of sterility after a first pregnancy into ten groups, based on a careful study of the 90 cases. The groups were thus arranged in order of frequency: 1. Sequelæ of inflammatory processes arising during the puerperium; 2. Catarrhal endometritis; 3. Sequelæ of inflammatory processes not puerperal in origin (43 cases came under one or other of these groups); 4. Displacements of the uterus; 5. Neoplasms of the uterus; 6. Constitutional sources of sterility established after the first pregnancy; 7. Impaired potency of the husband, well authenticated by the clinical history; this condition has more than a negative influence on the uterus and ovaries; 8. Super-involution or atrophy of the uterus; 9. New growths in the ovary; 10. Uncertain or unknown causes. Under group 6 were included cases where anæmia, cachexia, obesity, or emaciation arose after the first pregnancy. As the case could not readily be kept under observation after their discharge from the hospital, or after dispensing with the physician's services, Dr. Kleinwachter could come to no conclusions as to treatment—*Brit. Medical Journal.*

Photophoxylin.—Geo. M. Beringer, having attempted the manufacture of photoxylin, a substance used in Russia in place of gun-cotton, has described the method employed by him. Wood-pulp was obtained of the manufacturer both in the loose, fibrous form, and as condensed by rolling into thick and porous sheets. After careful drying, the pulp was nitrated in the following solution:

Nitrous acid, 43° Baume	2½ lb. av.
Sulphuric acid	4¼ lb. av.
Potassium nitrate, granular	8 oz. av.

The acids having been mixed in an earthenware crock and allowed to cool to 90° F., the potassium nitrate was added and thoroughly incorporated. Four oz. av. of the well-dried pulp was immediately placed in the mixture and allowed to remain for twelve hours. It was then removed and thoroughly washed. The addition of a few drops of ammonia to the wash water facilitated the removal of the acid. Nitrocelluose thus prepared leaves little or no residue on burning and is entirely soluble in a mixture of fifty per cent. of concentrated ether and fifty per cent. alcohol. Three per cent. of this photoxylin is sufficient to make a very thick collodion which leaves a very tough film when applied. An addition of 5 drops of castor-oil to the fluidounce renders it flexible. This solution (also called "photoxylin") has the advantage over ordinary collodion of giving a stronger film.—*American Journal Pharmacy.*

Opium Habit and Menstruation.—Dr. E. B. Stephens writes (*Obstetric Gazette*): I find that, uniformly, women who have been for some time—as say one to two or three years—in the morphine habit, have an *entire arrest of menstruation.* Being placed under "treatment" with a successful result, very speedily the function is re-established, and continues to proceed in the normal manner.

Antiseptic Treatment of Typhoid.—Legroux (*Le Bull. Med.*, June 17, p. 805) has used the following treatment in a large series of cases and believes in it. To all cases a good dose of calomel is first given, then if diarrhœa is prominent—

Naphthol.....
Bismuth.....aa gr. xl.

Make ten powders and give one every hour in a capsule suspended in milk.

If less diarrhœa, naphthol alone in same dose.

If tendency to constipation—

Naphthol.....
Magnes. salicylat .....

Ten powders as before.

Legroux finds in this treatment numerous advantages, both local and general, as, *e. g.*, disinfection of stools, diminution of meteorism and believes it affects favorably the course of the disease.—*Amer. Jour. Med. Sciences.*

The Prevention of Ophthalmia Neonatorum.—Ahlfeld, in the clinic at Marburg, has not had a case of pronounced *ophthalmia neonatorum* for three and one-half years, and no suppurating conjunctivitis for one and one-quarter years. This immunity he ascribes to the use of an antiseptic douche before labor; cleansing the child's eyelids as soon as the head is born; keeping the child's face as much as possible from the fluids in the vagina; and precautions in bathing the child. The face and head are never bathed in the water which cleanses the body; the eyes are bathed with clean water, by means of cotton.

Ahlfeld has no explanation for the fact that children seldom acquire the disease after the first week of life.—*Zeitschrift fur Geburtshulfe*, Band 14, Heft 2.

The Treatment of Hydrocele.—After one has had a large number of successes in the management of any particular disease, especially if these occur without a break, he is led to regard the method of treatment employed as one of peculiar value. This is what has induced Dr. C. H. Bedford to publish in the May number of the *Edinburgh Medical Journal* his manner of treatment of hydrocele.

The treatment which he has found almost universally applicable and successful is the tapping and thorough evacuation of the sac, injection of 2 drachms each of tincture of iodine and water, thorough shaking up of this injection so that all parts of the secreting surface may be brought in contact with the fluid, and the subsequent careful and efficient strapping of the testicle of the affected side, or, if the affection is bilateral, of each testicle separately. The puncture should be closed by cotton-wool, fixed by flexible collodion.

When there coexists a chronic orchitis or epididymitis, no injection should be made, but the tapping should be followed at once

by thorough strapping. The latter should be renewed every fourth day, and continued for three weeks or a month. The main point, after the evacuation of the fluid, is the strapping of the testicle. This furnishes support to the part, affording great comfort to the patient, and prevents in great measure the reactionary swelling after an irritating injection has been used.—*The Medical Record.*

Glycerin Suppositories for Habitual Constipation.—Boas, in the *Deutsche med. Wochenschr.*, of June 7, 1888, states that in a large number of cases he has had good results from the use of glycerin enemata as a purgative; but in some cases, particularly those with hæmorrhoids, or in individuals with an irritable rectal mucous membrane, which readily bleeds, the use of the syringe is no slight objection, so that the injections must be intermitted or entirely refrained from. The use of the syringe is also inconvenient. For these reasons he has had prepared suppositories consisting of capsules containing 16 minims of pure glycerin, which he has used in twenty cases, with the best results. The suppositories have been found to retain their form and efficacy for many weeks. Fifteen to twenty minutes after using one there is a desire to go to stool, but without tenesmus or other discomfort, soon followed, as a rule, by a copious evacuation. The employment of glycerin per rectum seems specially indicated when, with the constipation, there exists gastric disorder.—*Medical News.*

Yellow Fever.—Dr. Sternberg reports good results in Havana in the treatment of yellow fever from the following: It is well known that in yellow fever urine and the vomited matters are highly acid. He also found the intestinal contents to have usually a more or less decided acid reaction. A microbe, therefore, capable of multiplying in the stomach and intestine in this disease must be able to grow in an acid medium. But aside from this theoretical reason for prescribing alkalies, the highly acid condition of the secretions furnishes an indication for such a treatment, and Dr. Sternberg has long desired an opportunity to see a thorough trial of a decidedly alkaline treatment. He therefore proposed the following formula:

℞. Sodii bicarb.....grammes x (gr. 150),
Hydrarg. chlorid. corrosiv., centigrammes ii (3-10 gr.),
Aquæ puræ.....litre i (1 quart),
M. Sig.—Fifty grammes (about 1¾ oz.) every hour; to be given *ice cold.*

The house physician at the Garcini Hospital has sent Dr. Sternberg a record of twelve cases treated by the alkaline and bichloride method, and it appears that all of them recovered. While these twelve cases were being treated, and a little before, eight cases were treated in the same institution by their methods, and five of the eight died.

The same record states that the gastric sediments appear later, and in no case have they been entirely dark. In some cases, gastric sediments (black vomit) did not appear, nor even nausea. The pains in the stomach were not so severe.

Rules for Bathers.—The Royal Humane Society recommends to the notice of the English public a code of rules published by the Society, and entitled "Caution to Bathers." They are as follows:

Avoid bathing within two hours after a meal.

Avoid bathing when exhausted by fatigue or from any other cause.

Avoid bathing when the body is cooling after perspiration.

Avoid bathing altogether in the open air if after having been a short time in the water, it causes a sense of chilliness with numbness of the hands and feet.

Bathe when the body is warm, provided no time is lost in getting into the water.

Avoid chilling the body by sitting or standing undressed on the banks or in boats after having been in the water.

Avoid remaining too long in the water; leave the water immediately if there is the slightest feeling of chilliness.

The vigorous and strong may bathe early in the morning on an empty stomach.

The young, and those who are weak had better bathe two or three hours after a meal—the best time for such is from two to three hours after breakfast.

Those who are subject to attacks of giddiness or faintness, and those who suffer from palpitation and other sense of discomfort at the heart, should not bathe without first consulting their medical adviser.—*Southern California Practioner.*

Oxycyanide of Mercury the best of Antiseptics —Compared with corrosive chloride (*Comptes rend. d. Soc. d. Biol.*, July 6, 1888, p. 585):

1. Its solution has a slightly alkaline reaction and precipitates albumin only slightly.

2. It is less irritant than solutions of sublimate.

3. There is less absorption by tissues than in case of sublimate.

4. Solution 1-1500th does not attack, except slightly, the materials used in surgical instruments.

5. Tested by its power of keeping soup, the antiseptic power showed itself six times greater than that of the bichloride.

6. Tested by the power to destroy the micrococcus pyogenes aureus, the advantage was slightly in favor of bichloride, 1-1400th to 1-1300th.

7. Employed on suppurating surfaces or to render a mucous surface antiseptic, it furnishes much better results because of the tolerance by tissues and of feeble absorption.

The cyanide of mercury has about the same properties, but the oxycyanide is more powerful against the micrococcus pyogenes aureus.—*Amer. Jour. Med. Sciences.*

Acetanilide—Antifebrin.—These to substances are identical, but Squibb (*Ephemeris*, vol. iii. No. 3) observes that the name antifebrin is controlled by a patent, and consequently the price is enhanced. Acetanilide costs only half as much as antifebrin and one-eighth as much as antipyrin.—*Amer. Jour. Med. Sciences.*

SCIENTIFIC ITEMS.

American Association for the Advancement of Science.—This Society has embraced in its membership all or nearly all of the scientific men of America, and in the list of its officers—presidents, vice-presidents, and secretaries—the names of many of the illustrious scientific men of the country are enrolled.

To enumerate in systematic order the fields of research occupied by the various members of this association would be to formulate a classification of the sciences. "Atoms, mountains, and worlds, with all inorganic bodies and all inorganic motions, are to be examined in the study of the inorganic realm. The phenomena of nature are qualitative and quantitative, and out of quantitative relation the abstract science of mathematics has been developed, and this science of measurement is rapidly being applied to the qualitative sciences. There are many men engaged in mathematical researches. There are members who study the stars, compute their distances, and determine their courses, and who are seeking to solve the mysteries of the constitution of the bright sun and the pale moon; for on the chariot of light they drive through the storms of the greater orb and explore the dim fields of the lesser. Others with patient labor seek to discover the nature of light, of electricity, and of gravity—the mysterious force that impels the universe. There are others, many others, who are investigating the minute constitution of matter and determining its many forms. These forms are forever changing. The crystals of the rocks that make up the mountain mass are dissolved and their atoms redistributed in new forms, and chemical changes are in progress wherever human investigation can penetrate. There are others who are studying the surface of the earth—the lands and seas in all their places and forms. At the far North there is a region walled by ice, a million and a half square miles in extent; but even into this land of ice they penetrate. About the South Pole there is an area of seven million square miles inclosed by a barrier of ice—an unknown region into which the modern scholar is bound to enter."—*Scientific American.*

Ants and their Ways.—Much has been written about the industry and sagacity of the ant. Dr. Bonavia, in a recent number of the *Gardeners' Chronicle*, relates his observations on the habits of ants in India, in which he says:

"On one occasion I killed a wasp—the small yellow wasp that is so common in India. Soon after, I observed an ant moving about on the sill of a window. It struck me as a good opportunity to observe what steps this ant would take if brought in contact with the dead wasp. I placed the wasp in the path of the ant and watched the result. The ant, on finding the wasp, climbed over it and explored it thoroughly in all directions. Having satisfied itself that this was a good find, it descended, and ran down the wall of the window and across a very rough grass mat made

of the Saccharum moonja (the moonj or surput matting of India). It galloped across the room over this rough surface as hard as it could go in a particular direction, disappeared under the wooden sill of a door. I still watched to see what would happen. Presently a long string of ants in single file came out and followed the exact course that the foraging ant had taken. They crossed the mat in the same course, and went up the wall straight to the wasp. I left them in peace, and some time after I found only the shell of the wasp. It is evident that single ants leave the nest, as scouts or explorers, on foraging expeditions, and go to long distances. By some scent left on their course, they are able to retrace their steps to their nest The ants in the nest, probably by some scent of the body found which the exploring ant brings with it, are made to understand that something good to eat has been found. Guided by the exploring ant, or by the scent it may have left in its track, the whole nest or a portion of it sallies out, and goes straight to the find.

Ostriches.—A correspondent at Cape Colony, South Africa, writes us as follows: A curious habit of these birds was witnessed on the farm Guilford, in the Queenstown district by the proprietor and some of his family and servants during the late rains.

The nest, which is merely a large flat, saucer-like hole in the ground, became flooded; and when the water did not directly drain off, the two parent birds began to drink it up till the nest was drained dry.

The poor hen bird was so full that she seemed quite sick; the cock, however, drank his full share as in duty bound, being the most asciduous in all matters pertaining to the incubator, always sitting on the eggs himself by night.—*S. American.*

Snake Bite and Yellow Fever.—Dr. Urias da Silveira has sent to the Medico-Chirurgical Society of Rio de Janeiro a quantity of vegatable substance which is very common in the provinces —Minas geraes and Barra mansa—and which, he says, he has used with great advantage in the bites of cobras, especially during the period in which the most serious symptoms—hemorrhages and ataxo-adynamic phenomena—appeared. He points out analogies between the effects of snake bite and of yellow fever, both of a symptomatic and pathological nature, and suggests that the drug he sent should be tried in cases of yellow fever.—*Ib.*

Fire and Water-Proof Paper.—A paper that resists the action of both fire and water has, it is said, been recently invented in Germany by a Herr Ladewigg. The manufacture is accomplished by mixing twenty-five parts of asbestos fiber with from twenty-five to thirty parts of aluminum sulphate, and the mixture is moistened with chloride of zinc and thoroughly washed in water. It is then treated with a solution of 1 part of resin soap in eight to ten parts of a solution of pure aluminum sulphate, after which it is manufactured into paper like ordinary pulp.—*Scientific American.*

PRACTICAL NOTES AND FORMULÆ.

Nervous Headaches.—Dr. Jas. Little, in *Dublin Journal of Science*, says: Of the means which are useful in lessening the frequency of these headaches, the most efficacious are abundant exercise in the open air, a nourishing diet, sponging with hot water in the morning, followed by the cold douch over the shoulders and spine, and a very sparing use of tea. Among drugs the combination which has appeared to do most good is a pill containing:

℞. Sodii arseniat.....gr. iss,
Ext. cannabis Ind.....gr. ⅙,
Ext. balladonnæ.....gr. ⅓,
Zinci valerianat.....gr. ij.

M. Sig.—Take after breakfast and dinner.

Formula for Antifebrine.—Dr. I. N. Love (*Weekly Review*, July 7, 1888,) says that the following formula is a pleasant and convenient form of administering antifebrine:

℞. Antifebrine.....ʒ ij,
Alcohol.....f ʒ ij.
Glycerine.....f ʒ iij,
Cinnamon water.....f ʒ j.
Simple syrup.....f ʒ iij

M. Sig.—One half teaspoonful to two teaspoonfuls every two to four hours, according to age and necessities.—*Med. and Surg. Reporter.*

Formula for Dysmenorrhœa.—*L'Union Medicale du Canada* says Calvin's formula is—

℞. Tincture of gelsemium.....
Camphor water.....
Deodorized tincture of opium.....aa f ʒ ij.

M. Dose, 30 drops every two hours.—*Ex.*

Acute Tonsilitis.—The following gargle is prescribed in the University of Pennsylvania:

℞. Potasii bromidi.....ʒ iv,
Potasii chloratis.....ʒ j,
Tr. ferri chlor.....f ʒ ijss,
Ext. glycyrrhizæ.....ʒ j,
Aquæ.....q.s. ad f ʒ iv.

M. Sig.—A teaspoonful in water every two hours; gargle and swallow.—*Medical and Surgical Reporter.*

For Diphtheria.—Dr. W. T. Mason (*Medical World,*) says: In diphtheria I use whisky—plenty of it—in the shape of egg nogg, *ad libitum*; also plenty of powdered sulphur, put as nearly

on the membrane as possible with a feather or the handle of a spoon. What better germicide is there than sulphur? Of course I use other remedies, but my chief reliance is upon whisky (egg nogg) and sulphur.

Removing Indelible Ink.—Physicians are often asked how to remove indelible ink, and they sometimes cannot quite remember; so we repeat the following method: First moisten the stain with tincture of iodine, and, after a few minutes, remove the iodine stain with a solution of hyposulphite of soda. Finally wash in clean water. Repeat if necessary.—*Med. and Sur. Reporter.*

Napthaline in Dysentery.—Hinterhof (*Russkaya Meditzina*) praises the good effects of naphthaline in dysentery. His formula is—

℞. Pure napthaline.....gr. xv,
Distilled water.....f ℥ ij.

To be used in two enemas.

Besides the naphthaline, he administers quinine. Tenesmus and smarting at the anus subside at the first enema, and recovery is established after the second.—*Bulletin Medical.*

Hypodermic Injections in Malarial Attacks.—Dr. Loysel recommends the following formula for hypodermic injection in malarial attacks:

℞. Liq. ars-nicalis.....*m* l,
Quiniæ sulph..... ℥ ss,
Tartaric acid.....q. s.,
Aqua destillata.....*m* clxl.

Injection for leucorrhœa—

Potassium chloratis.....grs. cc,
Vin. opii.....℥ iij,
Aqua picis (tar water).....℥ viij.

—*London Medical Record.*

Prescription for Headache.—Dujardin-Beaumetz recommends the following:

℞. Cafleine.....gr. iv,
Salicylate of sodium.....gr. iv,
Hydrochlorate of cocaine.....gr. iss,
Water.....f ℥ ij,
Syrup.....f ℥ vss.

M. Take the whole at one dose at the beginning of the attack.—*Maryland Medical Journal.*

Digitalis as a Diuretic and Laxative.—Huchard, in the *Revue de Clin. et de Ther.* of April 12, 1888, gives the following formula for a laxative powder containing digitalis:

Potass. sulphat.....
Potass. tartrat.....
Potass. nitrat.....aa gr. lx,
Fol. digital. (pulv.).....gr. xv.

In twenty powders. One powder three times daily.

EDITORIALS AND MISCELLANEOUS.

EDITORIAL BREVITIES.

UNION PHARMACEUTICAL CO.—The advertisement of this excellent house in to day's journal will well repay perusal.

THE second triennial session of the International Congress of Hydrology and Climatology will be held at Paris the first week of October, 1889.

SCOTT & BOWNE.—See the new advertisement of Scott's emulsion in this journal. This preparation has a well deserved and established reputation.

MCARTHUR'S SYR: HYPOPHOSPHITES COM. is an excellent preparation. It is prepared especially for physicians and should be patronized by the profession. See advertisement of this excellent preparation in this journal.

MEDICAL BOOKS.—See the advertisement of Lester & Kuhrt in the line of medical books. They are clever business men, and keep all the standard medical books.

REMEDIES FOR RESPIRATORY AFFECTIONS.—We invite special attention to the new advertisement entitled, "Remedies for Respiratory Affections," on fourth cover page of this journal. The enterprising house of Parke, Davis & Co. always have something good to offer and something interesting to say.

DOCTORS' CASES, SADDLE-BAGS, INSTRUMENTS, ETC.—The house of I. Phillips on Marietta street is an interesting place to medical students and doctors. Surgical instruments of all kinds, pocket and dissecting cases in abundance. Call and see Mr. Phillips, 14 Marietta street.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—Dr. Davis, the Secretary, writes that the meeting of the Association was not held in Birminghdm on the 11th, 12th and 13th of September as announced, but has been postponed till the first Tuesday in December, owing to quarantine against yellow fever.

PRUNO-PHOSPHORATED SYRUP.—This preparation is coming into notice as a remedy for pulmonary diseases. It claims to be a superior tonic to the nervous system and to the digestive apparatus. It is gotten out by the Union Pharmaceutical Company of New York. See their advertisement in this issue.

DR. J. B. DANIEL, druggist, of Atlanta, has on hand a large lot of surgical instruments of every variety, including also teeth extractors, etc., which he is selling off at exceedingly low figures. Mr. Daniel is an active and accommodating business man. His store is directly opposite the entrace to the Union Passenger Depot. He runs an advertisement in this journal. Call and see him or send your orders. Dissecting instruments dirt cheap.

MEDICAL LIBRARY FOR SALE.—The library of Dr. J. T. Suggs, of Texas, deceased, is offered for sale at very low figures. His wife, who is in needy circumstances, and entitled to the sympathy of the brotherhood, writes that the library is a good one, containing many valuable works and bound journals. It furnishes a good opportunity to medical students or practitioners to procure a library at low figures. Parties desiring to purchase should address Mrs. J. T. Suggs, Mount Pleasant, Titus county, Texas.

THE DENTAL SCHOOL OF ATLANTA COMPLIMENTED.—The American and Southern Dental Associations convened at Louisville, Ky., on August 28th.

The National Association of Dental College Faculties met at the Gault House on the 27th of August. On a call for the percentage of examinations in the different schools, that of the Dental Department of the Southern Medical College, at Atlanta, was found to be five per cent. higher than any other school. As a consequence this school was very highly complimented, and its Dean, Dr. L. D. Carpenter, was elected Vice-President for the ensuing year.

ANOTHER MEDICAL AND SURGICAL REPORTER.—The editor writes: In our issue of July 28, we called attention to the appearance of a new medical journal which had taken the name of this one. Assuming that this was an error not inconsistent with honest intentions, we expressed the hope that it would soon be corrected. Since then, however, the second number of that publication has appeared, bearing the title: THE TOLEDO MEDICAL AND SURGICAL REPORTER—the first two words printed small, and the part of the title which copies ours printed in large letters. This step on the part of the publishers, we think, justifies the belief that they hope to profit by assuming our name, and are not to be deterred from it by those principles which actuate honorable men.

PROF. GASTON'S INTRODUCTORY.—We held back the present issue of the RECORD to give place to the "Introductory Address" of Prof. Gaston, delivered at the opening of the SOUTHERN MEDICAL COLLEGE, in the College Auditorium, at 11 o'clock, on the 2d of October. It will be found in the original department of this number, and is an able address, interesting and eminently practical. His remarks on Listerism may be regarded as expressive of the views of older and more conservative surgeons both here and across the water. It is perhaps well that men are found amongst us who, while progressive and practical in the profession, serve to hold a check-rein upon those whose enthusiasm leads to the too ready praise of all that is new and to the disparagement and desertion of the old and long established agencies and methods in the practice.

The opening of the College was in all respects a decided success, the class being a large and intelligent one, there being present also a number of citizens and visitors who manifested marked interest in the exercises.

The opening of the Dental Department took place at the Lecture Hall, on Walton street, at 4 p. m. Prof. T. S. Powell, the President, addressed the class in kind and admonitory words. This was followed by a very able and instructive address by L. D. Carpenter, D. D. S., Prof. of Pathology in the Dental Department. A goodly number of students were present and the opening was in all respects encouraging.

PROFESSIONAL DISHONOR.—We give space below to a letter from one of the ward physicians of Atlanta. The discourtesy therein criticised is mortifying to all members of the profession who regard its honor and its integrity before the world. The desertion of a dying patient with a view of throwing the case into the hand of a brother practioner is certainly most unfair and dishonorable. Such conduct deserves the scorn and contempt of all good men in the profession. Of all classes in the world medical men should be true to each other. To call a consultation in extreme, and even hopeless cases, is legitimate and honorable, and when thus called we should go and sustain as far as possible the brother in charge, but to desert the case on a false pretext, or get drunk, as we have often seen done, in order to throw it into the hands of another physician, is dishonorable in the extreme. Let us in all things be kind, liberal and just to each other. It is honorable and right; as a matter of policy it is wise and best, and in the end its results, both moral and financial, will prove far better for all parties.

ATLANTA, GA., September 22, 1888.

Editors Southern Medical Record:

Diplomas do not make doctors; neither do they make gentlemen. I beg you will pardon me if I solicit the use of your valuable columns to enter a most solemn protest against the acts of some medical men. The old maxim of Confucius: "Do unto others as you would be done by," is to them what honor is to the brute creation, and the Code of Ethics is no more binding on their sense of proper relation with their colleagues than is the Derby on their shallow brains. The number of mean acts that these professionals are culpable as well as capable of is simply incalculable. I will here cite one of those, yea, *a pluribus unum*, which has repeatedly fallen under my observation. No doubt the guilty parties on reading this will call it a joke on the city physician in order to pacify their conscience. For my part, I have no hesitancy in pronouncing it the proceeding of a man born without the instinct of a gentleman. I am, as you well know, one of the city physicians of Atlanta, and as such, required to wait on all the sick paupers or indigents of the Second Ward. There hardly passes a week that I am not called upon to wait on one of those unfortunates, white or black, whose pocket and even health has been drained by these medical sharks; and when the money is no longer forthcoming, they are GENTLY and COMPASSIONATELY turned over to the city physician for subsequent and gratuitous attention. It not rarely occurs that having undertaken to treat a case for a considerable time in the expectancy of a fee, they find an excuse for abandoning it, when their patient is about to die, especially if the latter be poor, and the city physician after having waited on a moribund, is unavoidably required to issue the death certificate! Now, these are facts which can be corroborated by my colleagues of the other wards! How kind and charitable to the patient! What an act of PROFESSIONAL COURTESY!

I do not ask for a remedy, for there is nothing more impervious than a callous heart and a calculating mind! But I simply wish to expose an evil to society and a stain on the profession. Very respectfully,

E. VAN GOIDTSNOVEN, M.D.

A NOBLE INSTITUTION.—Under this caption the *Atlanta Evening Journal* makes the following laudatory remarks in regard to the Ivy Street Hospital, which is connected with that excellent medical institution known as the South-

ern Medical College: "We are confident that all good citizens of Atlanta will rejoice to learn that this hospital is now being placed on so sure and excellent a footing, rendering it just the hospital needed for the treatment of all classes of diseases requiring scientific practitioners of the healing art.

Since the creation of this institution it has, in a measure, been crippled by its humane policy, the big heart of its president, Dr. T. S. Powell, having prompted him to make it a home for the poor and homeless sick. When the city committed its paupers to the care of the Ivy Street Hospital, he received them to the injury of the institution, willing not only to afford homes and sustenance and medical treatment to the afflicted poor. both white and co'ored, but to save the city great trouble and expense in giving attention to this unfortunate class of citizens.

The city authorities have found other and still cheaper methods of providing for the sick paupers in our midst, suspended the relations existing between them and Ivy street hospital, and in doing this have set the institution free from an injurious policy, and given it an impetus in the way of improvements and progress which will cause its friends to rejoice. Now it will be run as a private hospital, and be under the management of a business committee, who are now preparing to refit and refurnish it in every department, and rendering it a suitable refuge for all who may seek its advantages, however wealthy and refined.

The medical faculty of the Southern Medical College have agreed to divide the work and relieve Dr. Powell as much as possible, who has hitherto borne, at great labor and sacrifice, the exclusive management and control of this institution. These gentlemen have in a recent official meeting recognized in most appreciative and complimentary terms, the work of this noble man, and have expressed the determination to divide the duties and labors he has so long discharged with a wise discretion and unquestionable fidelity.

They well knew when they presented him the beautiful medal of virgin gold with the motto "*Vertus in Arduis*" (strong in difficulties), the true character of their president, for he has in every emergency plainly manifested his great ability to grapple with and overthrow unjust opposition, that all who know him have learned that his energies and his resolution know not how to yield when his cause or his purpose is right. All of the friends of Ivy street hospital and the Southern Medical College may rest assured that he will never succumb to the enemies of this institution, but that he will continue to improve it in every detail and advance its interest until it is the pride not only of all good citizens of Atlanta, but of the entire South.

The hospital will be furnished in splendid style and equipped with every convenience, so that the afflicted may find it a home equal to any. The ladies who from the beginning have given Dr. Powell their aid in establishing this institution, will assist, no doubt, the faculty in bringing it to the very highest degree of excellence.

LETTER FROM NEW YORK—YELLOW FEVER PREVENTED BY INNOCULATION.

To the Editor of the Southern Medical Record:

SIR—In view of the grave consequences resulting from the scourge of yellow fever at Jacksonville, Fla., it seems fitting something ought to be done, more than has been done, to prevent the ravages of this contagion.

It is now generally understood by medical men, and those that have studied the ætiology of the disease, that it is a poison of the blood, and brought about by the inhalation of a poisonous disease germ, through the air currents, and also taken into the body, water, food, and possibly by absorption through the pores of the skin.

Whether these poisonous germs are the carriers of an infection, or fasten upon the internal organs of the body, and there multiply and reproduce themselves to an unlimited extent and then die and choke up the venous and arterial circulation, are questions yet to be determined. It has been shown that when this germ is taken into the organism by way of inhalation, they pass through the stomach with the food into the lower section of the intestinal canal without, harm where they reach the colon and find a suitable condition for their propagation, when within a few hours they multiply and reproduce themselves many millions.

This is the real beginning or incipient stage of yellow fever, and to clean out this obstruction and fermentive compact with epsom salts and castor oil, followed up with finely powdered fresh charcoal, is very effective treatment.

In contagious or infectious diseases the virulence depends upon the activity of the poison, and to modify this germ for the prevention or mitigation of disease, is now an interesting problem in medical science. That such a thing is possible, has been proven, or even shown that vaccination with a correctly prepared virus, will afford protection from so grave a malady as yellow fever. It would then seem incumbent on the medical profession to test the virtues of this prophylactic, without regard to explanations, whether it compares strictly with pathology, and save the lives of thousands who are or may be exposed to this malignant disease.

To prove the value of an antagonistic poison that is safe and harmless, it is now on record, of a medical professor who inoculated one thousand four hundred and thirty-eight persons exposed to yellow fever, *not one of whom died*, although seven were attacked with the disease. This is authentic, and other clinical evidence can be given in support of this theory and treatment of yellow fever by vaccination.

On July 28th, 1873, the first vaccination was performed in this country for hereditary tubercular consumption with success, and of later date for other diseases, by this mode of practice.

Since the discovery of the disease germ, and its relation to disease, enough has already been done to satisfy the public mind of the practicability of preventing yellow fever with a correctly modified virus, not so much for a cure, but a preventive, as small pox is prevented in man. Though this fact of preventing diseases has long been known to the scientific world, the difficulty has heretofore been as to the correct and safe method of attenuation. The day is not far distant when the application of distinct viruses for different diseases will be in general practice, and perhaps better understood for the relief of suffering humanity.

Respectfully,

W. MILLER,

New York, September, 1888. 149 East 12th Street, New York.

Have been using TONGALINE for two or three years with the most happy results and find it has excelled any other remedy for the cure of muscular rheumatism.

J. M. JONES, M. D., Newport, Arkansas.

SPECIAL NOTES.

Cascara Sagrada.—This drug seems to be growing in popularity. Recent observations indicate that it has specific virtues for the relief of rheumatism. The Cascara Cordial, as prepared by Parke, Davis & Co., is especially recommended. Its adaptation to the treatment of habitual constipation, as a vehicle for nauseous medicines, and to dispel the effects of alcohol and opium abuse, are now generally conceded.

A New Pepsine.—The problem of a thoroughly satisfactory Liquid Pepsine has been solved by the Mellier Drug Company, who can guarantee in presenting their Peptonic Elixir (Elixir-pepsini-acidi) that this preparation contains more peptonic strength than any other in liquid form. It is exceedingly palatable and much cheaper than other similar ones. Attention is called to their offer to send a bottle of the regular size to the address of any physician, applying for same, who will agree to pay express charges on the package.

Wm. R. Warner's Parvules are excellent and convenient for the practitioner, who can grade the dose to suit any age or condition. Their sugar coated pills are superior, and their numerous formulæ are splendid. Their preparations are noted for purity and carefulness of preparation. See their advertisement in this number.

Lambert Pharmacal Co.—This excellent house have put before the profession some admirable preparations. Their antiseptic known as Listerine is deservedly popular, not only as a local application after surgical operations and as a purifying agent in sick rooms, etc., but is also useful as an internal remedy. Their Lithiated Hydrogen is also a prime remedy. See their advertisement on page opposite third cover page of this journal.

Fairchild Brothers & Foster have obtained deserved reputation in their Pepsin Preparations. Most pepsins are variable in strength and uncertain in action. We have not found it the case with Fairchild's pepsin. His Peptogenic powders have proven a wonderful success in the nourishing of children deprived of the breast, or suffering with indigestion, summer complaints, etc.

Bowmanstown, Carbon county, Pa.

I frequently prescribe Celerina when I want to use a reliable compound of celery and coca, and the prescription has given me satisfaction in its results as a nerve-tonic in many cases.

Yours very truly,
C. H. HUGHES, M. D.

Lecturer on Psychiiatry and Neurology, Post-Graduate Faculty, St. Louis Medical College, Editor *Alienist and Neurologist*, etc.

Sharp & Dohme, of Baltimore, prepare most beautiful and reliable preparations. Their hypodermic tablets, their gelatine and sugar-coated pills and granules, their solid and fluid extracts, syrups, lozenges, trituates, and indeed all their numerous preparations, are excellent and reliable. See their advertisement on second cover page.

Lactopeptine.—Of all agents employed to aid digestion *Lactopeptine* has the reputation of being the most reliable and active. In Cholera Infantum it is considered a specific by the most eminent and successful practitioners, and they freely express to us their opinion, that they rely upon it altogether in the Summer Diarrhœa of children.